Notice No.3

Rules and Regulations for the Classification of Special Service Craft, July 2022

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: December 2022

Amendments to	**Effective date**	**IACS/IMO implementation (if applicable)**
Part 3, Chapter 3, Section 5	1 January 2023	N/A
Part 3, Chapter 13, Section 6	1 January 2023	N/A
Part 6, Chapter 5, Section 2	1 January 2023	N/A
Part 7, Chapter 5, Section 2	1 January 2023	N/A
Part 8, Chapter 5, Section 2	1 January 2023	N/A

Part 3, Chapter 3
Control Systems

■ *Section 5*
Stabiliser arrangements

Existing sub-Section 5.2 has been deleted entirely and replaced with the following:

5.2 Fin stabilisers

5.2.1 Detailed plans are to be submitted clearly indicating the positions, supporting structures and design loads for retractable and non-retractable fin stabilisers.

5.2.2 The design, construction, operational performance and control of fin stabilisers are outside the scope of classification.

5.2.3 Stabiliser fins are to be positioned so that the openings for the fins are between a pair of transverse watertight bulkheads which form a watertight compartment. Where stabiliser fins extend across watertight bulkheads, these bulkheads are not included in the compartment definition, *see Figure 3.5.1 Stabiliser fin positioning.* If this compartment is subjected to flooding due to stabiliser damage, calculations and information are to be submitted showing that the bulkhead deck does not become submerged and that essential systems remain operational. A water ingress detector and alarm are to be provided, as well as indication on the navigation bridge.

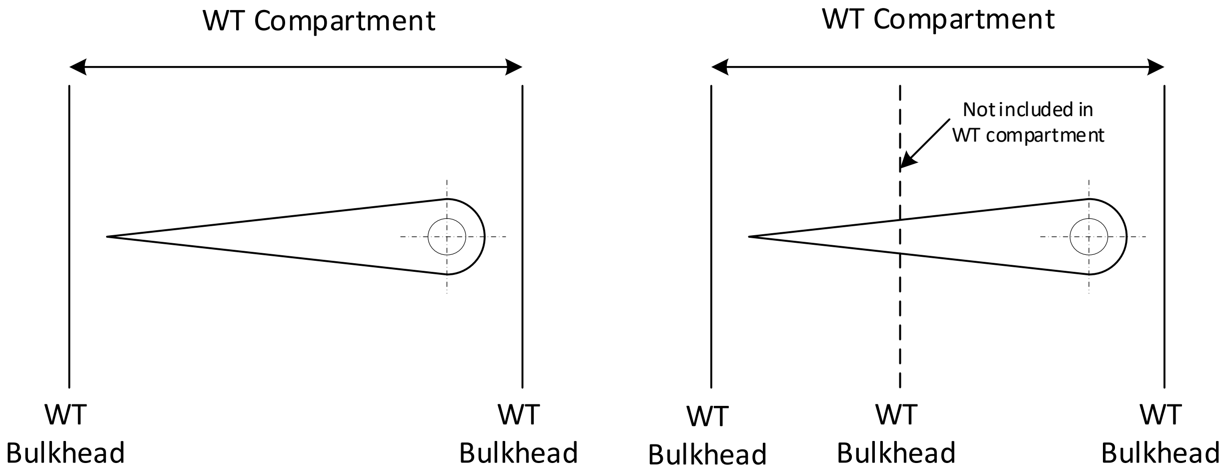
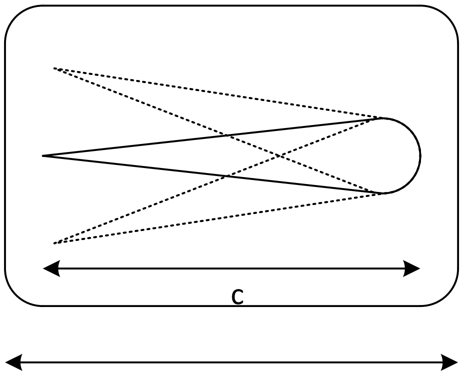


Fig 3.5.1 Stabiliser fin positioning

5.2.4 Shell insert plates are to be fitted or, for composite craft, laminate thickness increased in way of stabilisers. The thickness of the insert plate or increased laminate is to be at least 50 per cent greater than the shell thickness in way, and is to extend over a minimum area formed by 1,25 times the stabiliser root chord length '*c*' and covering all operational angles of the fin, *see Figure 3.5.2 Shell insert or increased laminate*. In addition, for retractable stabilisers the insert is to extend beyond the shell opening for a distance of not less than 25 per cent of the length of the root chord. The insert plate is to extend above and below the opening for the stabiliser for a minimum distance equal to the opening height.



Extent of shell insert or laminate increase = 1,25*c*

Figure 3.5.2 Shell insert or increased laminate

5.2.5 The stabiliser foundation and surrounding hull structure is to be adequately supported and stiffened, and is to be examined for the following load cases:

(a) Fatigue load. In the absence of a load derived from operational lifecycle data, the fatigue load may be taken as the maximum working load in heavy weather at 90 per cent of the allowable speed *V*, where *V* is defined in *Pt 5, Ch 2, 2.1 Parameters to be used for the determination of load and design criteria*. The fatigue load is additionally not to be taken as less than the maximum working load at zero speed. Nominal bending stress in the structure for the fatigue load is not to exceed 39 N/mm^2 in steel (mild or high-tensile) and 21 N/mm^2 in aluminium. Allowable stress in composite structures will be specially considered.

(b) Shaft breaking load. The surrounding hull structure is not to yield under this load case. The load is to be applied in both the longitudinal and transverse directions.

5.2.6 Supporting direct calculations are to be submitted for the load cases in *Pt 3, Ch 3, 5.2 Fin stabilisers 5.2.5* demonstrating compliance with the allowable stresses.

5.2.7 Shaft bearing materials and seals are to be of an approved type.

5.2.8 For craft constructed of steel or aluminium the watertight enclosure into which the stabilisers retract is to have a perimeter plating thickness of the surrounding shell plating plus 2 mm and stiffened to an equivalent standard.

5.2.9 For craft constructed of composite materials the laminate thickness of the watertight enclosure into which the stabilisers retract is to have a thickness not less than the surrounding shell laminate.

5.2.10 Non-retractable or retracted stabiliser fins are, in general, not to extend beyond the beam of the hull or below the keel.

5.2.11 In general, full penetration welds are to be applied in way of the stabiliser pedestal and surrounding hull structure. Welds are to be smooth and notch-free. Construction details are to be carefully designed to avoid structural discontinuities and stress concentrations.

5.2.12 On ice class ships, non-retractable stabiliser fins are not to be fitted to ships with an **Ice Class 1C** or higher. Where fitted, the fins are to be positioned at least 500 mm below the ice light waterline in all operating positions.

Part 3, Chapter 13
Ship Control Systems

■ *Section 6*
Stabiliser structure

Existing sub-Section 6.1 has been deleted and replaced with the below:

6.1 Fin stabilisers

6.1.1 Detailed plans are to be submitted clearly indicating the positions, supporting structures and design loads for retractable and non-retractable fin stabilisers.

6.1.2 The design, construction, operational performance and control of fin stabilisers are outside the scope of classification.

6.1.3 Stabiliser fins are to be positioned so that the openings for the fins is between a pair of transverse watertight bulkheads which form a watertight compartment. Where stabiliser fins extend across watertight bulkheads, these bulkheads are not included in the compartment definition, *see Figure 9.6.1 Stabiliser fin positioning.* If this compartment is subjected to flooding due to stabiliser damage, calculations and information are to be submitted showing that the bulkhead deck does not become submerged and that essential systems remain operational. A water ingress detector and alarm are to be provided, as well as indication on the navigation bridge.

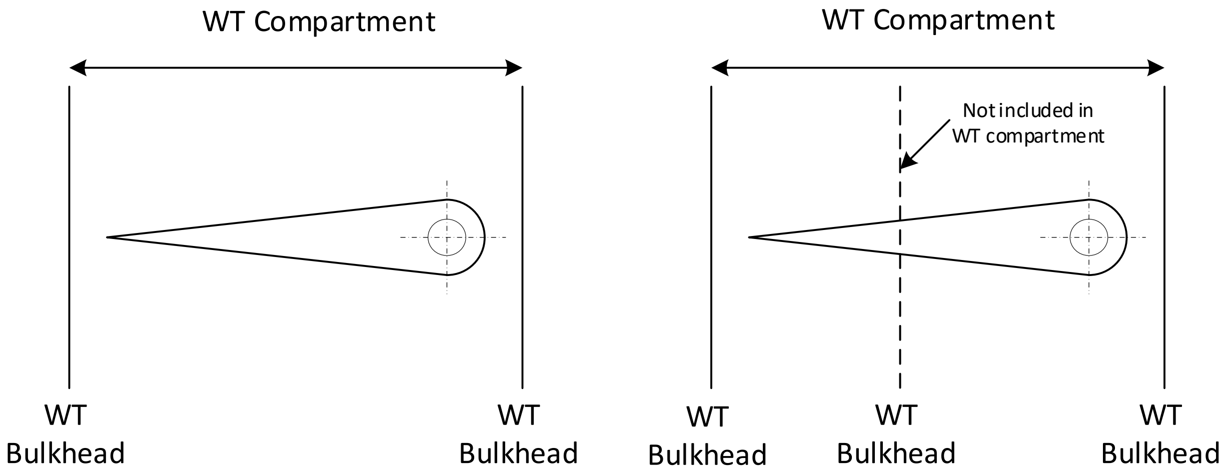


Fig 9.6.1 Stabiliser fin positioning

6.1.4 Shell insert plates are to be fitted in way of stabilisers. The thickness of the insert plate is to be at least 50 per cent greater than the shell thickness in way, and is to extend over a minimum area formed by 1,25 times the stabiliser root chord length '*c'* and covering all operational angles of the fin, *see Figure 9.6.2 Shell insert or increased laminate*. In addition, for retractable stabilisers the insert is to extend beyond the shell opening for a distance of not less than 25 per cent of the length of the root chord. The insert plate is to extend above and below the opening for the stabiliser for a minimum distance equal to the opening height.

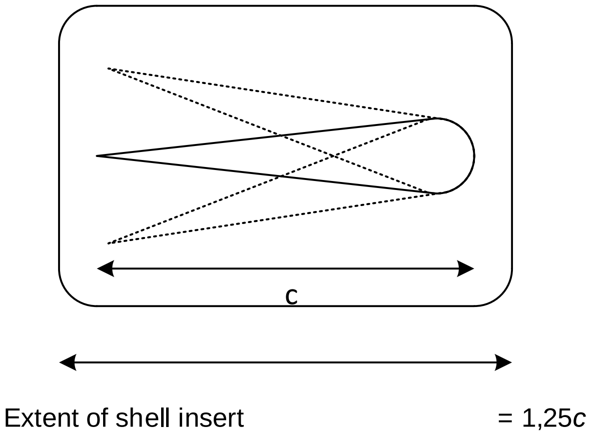


Figure 9.6.2 Shell insert

6.1.5 The stabiliser foundation and surrounding hull structure is to be adequately supported and stiffened, and is to be examined for the following load cases:

(a) Fatigue load. In the absence of a load derived from operational lifecycle data, the fatigue load may be taken as the maximum working load in heavy weather at 90 per cent of the allowable speed *V*, where *V* is defined in *Pt 3, Ch 1, 6.1 Principal particulars*. The fatigue load is additionally not to be taken as less than the maximum working load at zero speed. Nominal bending stress in the structure for the fatigue load is not to exceed 39 N/mm^2 in steel (mild or high-tensile).

(b) Shaft breaking load. The surrounding hull structure is not to yield under this load case. The load is to be applied in both the longitudinal and transverse directions.

6.1.6 Supporting direct calculations are to be submitted for the load cases in *Pt 3, Ch 9, 6.1 Fin stabilisers 6.1.5* demonstrating compliance with the allowable stresses.

6.1.7 Shaft bearing materials and seals are to be of an approved type.

6.1.8 The watertight enclosure into which the stabilisers retract is to have a perimeter plating thickness of the surrounding shell plating plus 2 mm and stiffened to an equivalent standard.

6.1.9 In general, full penetration welds are to be applied in way of the stabiliser pedestal and surrounding hull structure. Welds are to be smooth and notch-free. Construction details are to be carefully designed to avoid structural discontinuities and stress concentrations.

6.1.10 Non-retractable or retracted stabiliser fins are, in general, not to extend beyond the beam of the hull or below the keel.

6.1.11 On ice class ships, non-retractable stabiliser fins are not to be fitted to ships with an **Ice Class 1Cor higher**. Where fitted, the fins are to be positioned at least 500 mm below the ice light waterline in all operating positions.

Part 6, Chapter 5
Special Features

■ *Section 2*
Special features

2.6 Lifting appliances and associated support arrangements

2.6.3 Lifting appliance pedestals and foundations that are welded to the supporting hull structures are classification items, and the scantlings and arrangements are to comply with LR's requirements whether or not LR is also requested to certify or class the lifting appliance and issue the Register of Ship's Lifting Appliances and Cargo Handling Gear, *see Figure 5.2.1 Classification items and applicability of LR's requirements for lifting appliance pedestals and foundations*.

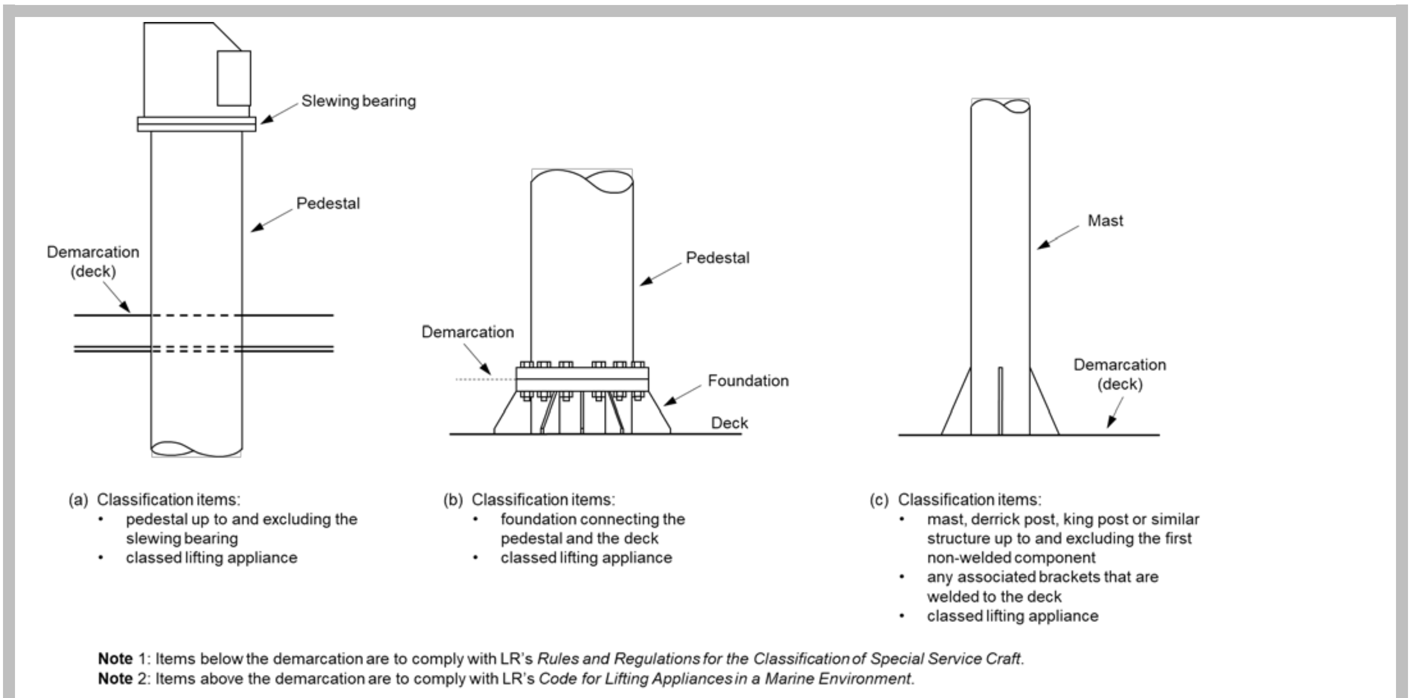

Slewing bearing
Pedestal
Demarcation
(deck)
Pedestal
Demarcation
Foundation
Deck
Mast
Demarcation
(deck)
(a) Classification items:
• pedestal up to and excluding the slewing bearing
• classed lifting appliance
(b) Classification items:
• foundation connecting the pedestal and the deck
• classed lifting appliance
(c) Classification items:
• mast, derrick post, king post or similar structure up to and excluding the first non-welded component
• any associated brackets that are welded to the deck
• classed lifting appliance
Note 1: Items below the demarcation are to comply with LR's *Rules and Regulations for the Classification of Special Service Craft*.
Note 2: Items above the demarcation are to comply with LR's *Code for Lifting Appliances in a Marine Environment*.

Figure 5.2.1 Classification items and applicability of LR's requirements for lifting appliance pedestals and foundations

~~2.6.3~~2.6.8 ~~Crane pedestals~~ Lifting appliance pedestals and foundations are to be efficiently supported and, in general, are to be carried through the deck and satisfactorily ~~scarfed~~integrated into the surrounding structure. Alternatively, ~~crane~~ lifting appliance pedestals and foundations may ~~comprise a foundation, in which case the foundation and its~~ be carried into a supporting structure ~~are to be~~ of ~~substantial construction~~adequate strength, *see Pt 6, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.9*. Proposals for other support arrangements will be specially considered.

2.6.4 ~~The pedestal or proposed arrangement is to be designed with respect to the worst possible combinations of loads resulting from the crane self weight, live load, wind and accelerations, together with those resulting from the craft's heel and trim.~~ The design loads applied to the lifting appliance pedestals and foundations (such as masts, derrick posts and crane pedestals) are to comply with the requirements of LR's *Code for Lifting Appliances in a Marine Environment*, *see Figure 5.2.1 Classification items and applicability of LR's requirements for lifting appliance pedestals and foundations*.

~~2.6.7~~2.6.9 The factored forces and moments resulting from an installed lifting appliance are to be taken into consideration on the basis of LR's *Code for Lifting Appliances in a Marine Environment* when assessing the support arrangements, including the deck plating and underdeck stiffening in way of ~~a~~ the lifting appliance pedestal and foundation. ~~are to be assessed using the same criteria used to assess the lifting appliance pedestal.~~ The global hull girder stresses are to be taken into account where applicable, with due consideration given to the material grade, *see also Pt 6, Ch 6 Hull Girder Strength*.

~~2.6.8~~2.6.7 When submitting plans for the proposed pedestal and foundation, the designer is to include design calculations covering the parameters indicated in *Pt 6, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.4* ~~and~~to *Pt 6, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.6*.

~~2.6.9~~2.6.10 Insert plates are to be incorporated in the deck plating in way of ~~crane~~ lifting appliance foundations. The thickness of the insert plates is to be as required by the designer's calculations but in no case is to be taken as less than 1,5 times the thickness of the adjacent attached plating.

Paragraphs 2.6.10 and 2.6.11 have been renumbered as 2.6.11 and 2.6.12 respectively.

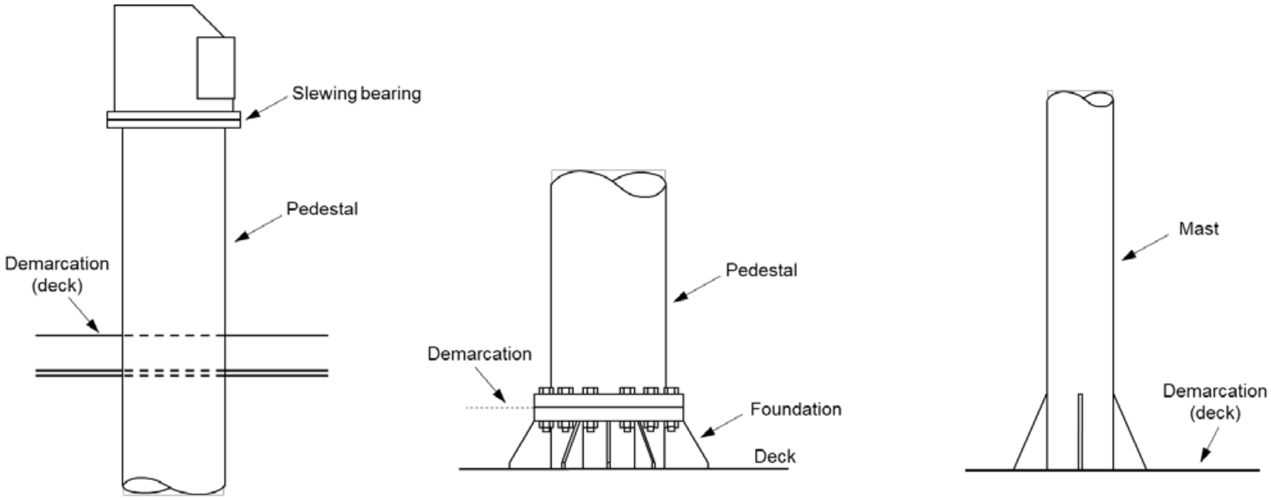
2.6.13 The support arrangements and scantlings of personnel handling (often called man-riding) appliances are to be in accordance with the requirements of LR's *Code for Lifting Appliances in a Marine Environment.*

Part 7, Chapter 5
Special Features

■ *Section 2*
Special features

2.6 Lifting appliances and associated support arrangements

2.6.3 Lifting appliance pedestals and foundations that are welded to the supporting hull structures are classification items, and the scantlings and arrangements are to comply with LR's requirements whether or not LR is also requested to certify or class the lifting appliance and issue the Register of Ship’s Lifting Appliances and Cargo Handling Gear, *see Figure 5.2.1 Classification items and applicability of LR’s requirements for lifting appliance pedestals and foundations*.



(a) Classification items:
- pedestal up to and excluding the slewing bearing
- classed lifting appliance

(b) Classification items:
- foundation connecting the pedestal and the deck
- classed lifting appliance

(c) Classification items:
- mast, derrick post, king post or similar structure up to and excluding the first non-welded component
- any associated brackets that are welded to the deck
- classed lifting appliance

Note 1: Items below the demarcation are to comply with LR’s *Rules and Regulations for the Classification of Special Service Craft*.
Note 2: Items above the demarcation are to comply with LR’s *Code for Lifting Appliances in a Marine Environment*.

Figure 5.2.1 Classification items and applicability of LR’s requirements for lifting appliance pedestals and foundations

~~2.6.3~~2.6.8 ~~Crane pedestals~~ Lifting appliance pedestals and foundations are to be efficiently supported and, in general, are to be carried through the deck and satisfactorily ~~scarfed~~integrated into the surrounding structure. Alternatively, ~~crane~~ lifting appliance pedestals and foundations may ~~comprise a foundation, in which case the foundation and its~~ be carried into a supporting structure ~~are to be~~ of ~~substantial construction~~adequate strength, *see Pt 7, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.9*. Proposals for other support arrangements will be specially considered.

2.6.4 ~~The pedestal or proposed arrangement is to be designed with respect to the worst possible combinations of loads resulting from the crane self weight, live load, wind and crane accelerations, together with those resulting from the craft's heel and trim.~~ The design loads applied to the lifting appliance pedestals and foundations (such as masts, derrick posts and crane pedestals) are to comply with the requirements of LR's *Code for Lifting Appliances in a Marine Environment*, *see Figure 5.2.1 Classification items and applicability of LR’s requirements for lifting appliance pedestals and foundations*.

~~2.6.7~~2.6.9 The factored forces and moments resulting from an installed lifting appliance are to be taken into consideration on the basis of LR’s *Code for Lifting Appliances in a Marine Environment* when assessing the support arrangements, including the deck plating and underdeck stiffening in way of ~~a~~ the lifting appliance pedestal and foundation. ~~are to be assessed using the same criteria used to assess the lifting appliance pedestal.~~ The global hull girder stresses are to be taken into account where applicable, with due consideration given to the material grade, *see also Pt 7, Ch 6 Hull Girder Strength*.

~~2.6.8~~2.6.7 When submitting plans for the proposed pedestal and foundations, the designer is to include design calculations covering the parameters indicated in *Pt 7, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.4* and *Pt 7, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.6*.

~~2.6.9~~2.6.10 Insert plates are to be incorporated in the deck plating in way of ~~crane~~ lifting appliance foundations. The thickness of the insert plates is to be as required by the designer's calculations but ~~is~~ in no case is to be taken as less than 1,5 times the thickness of the adjacent attached plating.

Paragraphs 2.6.10 and 2.6.11 have been renumbered as 2.6.11 and 2.6.12.

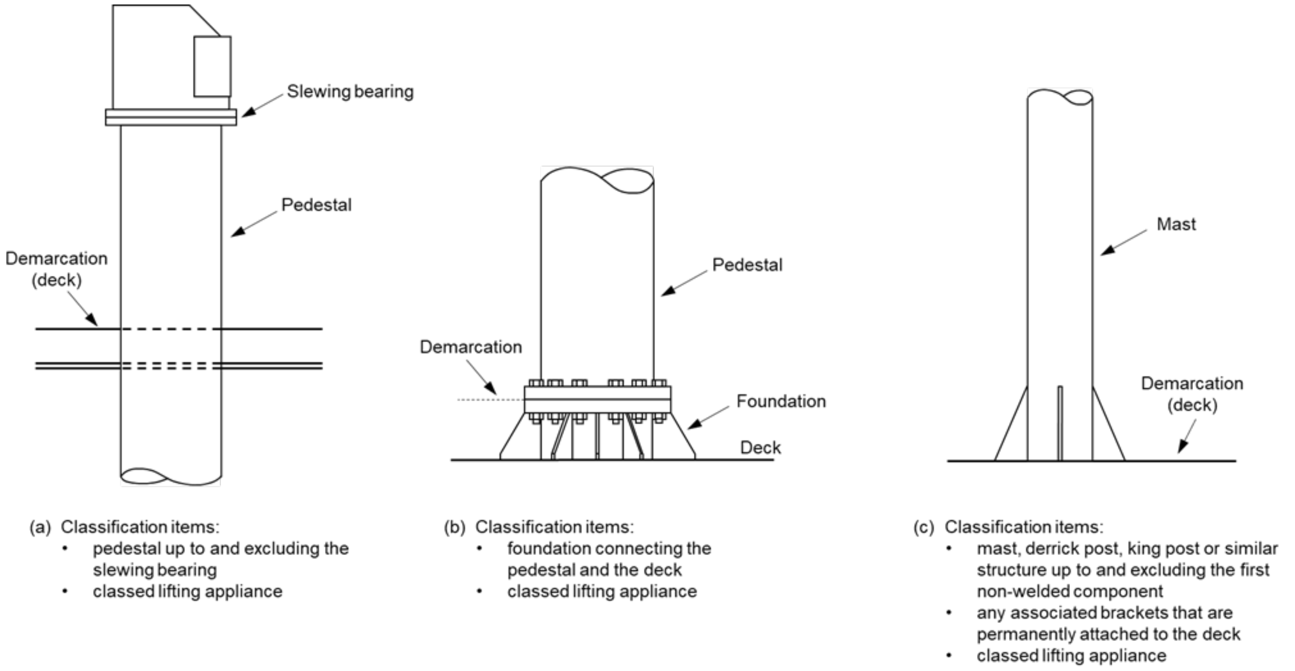
2.6.13 The support arrangements and scantlings of personnel handling (often called man-riding) appliances are to be in accordance with the requirements of LR's *Code for Lifting Appliances in a Marine Environment.*

Part 8, Chapter 5
Special Features

■ *Section 2*
Special features

2.6 Lifting appliances and associated support arrangements

2.6.3 Lifting appliance pedestals and foundations that are permanently attached to the supporting hull structures are classification items, and the scantlings and arrangements are to comply with LR's requirements whether or not LR is also requested to certify or class the lifting appliance and issue the Register of Ship’s Lifting Appliances and Cargo Handling Gear, *see Figure 5.2.1 Classification items and applicability of LR’s requirements for lifting appliance pedestals and foundations*.



(a) Classification items:
- pedestal up to and excluding the slewing bearing
- classed lifting appliance

(b) Classification items:
- foundation connecting the pedestal and the deck
- classed lifting appliance

(c) Classification items:
- mast, derrick post, king post or similar structure up to and excluding the first non-welded component
- any associated brackets that are permanently attached to the deck
- classed lifting appliance

Note 1: Items below the demarcation are to comply with LR’s *Rules and Regulations for the Classification of Special Service Craft*.
Note 2: Items above the demarcation are to comply with LR’s *Code for Lifting Appliances in a Marine Environment*.

Figure 5.2.1 Classification items and applicability of LR’s requirements for lifting appliance pedestals and foundations

~~2.6.3~~2.6.7 ~~Crane pedestals~~Lifting appliance pedestals and foundations are to be efficiently supported and, in general, are to be carried through the deck and satisfactorily ~~scarfed~~integrated into the surrounding structure. Alternatively, ~~crane~~ lifting appliance pedestals and foundations may ~~comprise a foundation, in which case the foundation and its~~ be carried into a supporting structure ~~are to be~~ of

~~substantial construction~~adequate strength, *see Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.8*. Proposals for other support arrangements will be specially considered.

2.6.4 ~~The pedestal or proposed arrangement is to be designed with respect to the worst possible combinations of loads resulting from the crane self weight, live load, wind and crane accelerations together with those resulting from the craft's heel and trim.~~ The design loads applied to the lifting appliance pedestals and foundations (such as masts, derrick posts and crane pedestals) are to comply with the requirements of LR's *Code for Lifting Appliances in a Marine Environment*, *see Figure 5.2.1 Classification items and applicability of LR's requirements for lifting appliance pedestals and foundations*.

~~2.6.6~~2.6.8 The forces and moments resulting from an installed lifting appliance are to be taken into consideration on the basis of *Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.4* to *Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.6* when assessing the support arrangements, including the deck plating and underdeck stiffening in way of ~~a~~ the lifting appliance pedestal and foundation. ~~are to be assessed using the same criteria used to assess the lifting appliance pedestal.~~ The global hull girder stresses are to be taken into account where applicable, with due consideration given to the material grade, *see also Pt 8, Ch 6 Hull Girder Strength*.

~~2.6.7~~2.6.11 The support arrangements for life-saving appliances are, in general, to be in accordance with *Pt 3, Ch 9, 6.5 Support structure for life-saving appliances* of the *Rules and Regulations for the Classification of Ships*.

~~2.6.8~~2.6.6 The strength of composite lifting appliance pedestals and foundations (all failure modes) is to be assessed based on the ultimate tensile strength of the material using the limiting stress criteria given in *Table 7.3.1 Limiting stress criteria for local loading*.

~~2.6.9~~2.6.13 Direct FE calculations of the lifting appliance or life-saving appliance foundation, carried out in accordance with the requirements of *Pt 3, Ch 1, 2 Direct calculations*, are to be submitted for review. Calculations are to be based on ply theories or recognised multiaxial failure criteria. Details of the reporting and acceptance criteria are to be agreed beforehand. Alternatively, a full scale load test using the SWL (calculated in accordance with *Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements 2.6.4* or *Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements ~~2.6.7~~2.6.11* as appropriate) divided by the limiting stress coefficient given in *Pt 8, Ch 5, 2.6 Lifting appliances and associated support arrangements ~~2.6.8~~2.6.6* is to be carried out. Details are to be agreed with LR prior to testing.

2.6.12 The support arrangements and scantlings of personnel handling (often called man-riding) appliances are to be in accordance with the requirements of LR's *Code for Lifting Appliances in a Marine Environment.*

Existing paragraphs 2.6.10 and 2.6.11 have been renumbered 2.6.9 and 2.6.10.

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